

Appln No.: 10/771,589
Amendment Dated: October 20, 2006
Reply to Office Action of April 20, 2006

REMARKS/ARGUMENTS

This is in response to the Office Action mailed April 20, 2006 for the above-captioned application. Reconsideration and further examination are respectfully requested.

Applicants request an extension of time sufficient to make this paper timely and enclose an authorization to charge the fee.

The Examiner rejected claims 1, 6, 15, 24, 42, 47, 58 and 73 under 35 USC § 112, second paragraph, as indefinite. Without conceding that the choice of "selected from among" has any different meaning from "selected from the group consisting of" or that the claims were in any way indefinite, Applicants have amended claims 1, 6, 15, 24, 42, 47 and 58.

With respect to the phrases rubber-like polymer in claims 6, 15, 24, 57 and 58, and thin-walled in claim 73, Applicants respectfully remind the Examiner that in making a rejection under 35 USC § 112, second paragraph, the burden is on the Examiner to establish that a person skilled in the art could not determine the scope of the claims when they are considered in light of the specification. *Ex parte Cordova*, 10 U.S.P.Q. 2d 1949, 1952 (POBAI 1989). The examiner has made no arguments towards this goal, and thus the rejection is plainly not presented in a manner sufficient to meet the Examiner's obligations. Furthermore, both of the terms to which the Examiner objects are defined in the specification. The term "rubber-like polymer" is defined on Page 7, and the examiner has provided no reasons to suggest that the person skilled in the art would not understand the term. The term "thin-walled" is defined in the paragraph bridging Pages 2 and 3. Nevertheless, claims 74 and 75 have been amended to independent form.

In view of these amendment and arguments, Applicants submit that the rejection under 35 USC § 112, second paragraph, should be withdrawn.

The present invention relates to a polymer composition with certain properties defined in the claims. When dealing with polymer compositions, it is generally the case the materials added to enhance one property will at the same time degrade other properties. The goal therefore in developing polymer compositions is to select the combination of ingredients that does the most good, while resulting in the least degradation. Because the interactions in the blends are so complex, there is no way to readily predict what the properties of a complex blend will be prior to making it.

The composition of the invention, as defined in amended claims 1 and 42, contains a polycarbonate/siloxane component, a mineral filler that is talc, clay, wollastonite or combinations thereof, and a flame retardant component that comprises a phosphate-based flame retardant.

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Further, the amounts of the materials are selected such that the desired beneficial properties in terms of fire retardance rating, impact strength and flex modulus are obtained.

From the examples in the specification and the declaration filed herewith, the following observations can be made:

- (1) addition of a mineral filler to a composition without the PC-siloxane increases flex modulus, but significantly lowers the impact strength. No significant change in flame retardance is observed. (Comp Ex 2-4 versus Comp Ex. 1)
- (2) addition of PC-siloxane to a composition containing mineral filler and phosphate flame retardant increases the flame retardance of a composition and improves the impact strength without degradation of flex modulus. (Ex 1 and 4 vs Comp Ex. 2; Ex 3 vs Comp Ex. 4)
- (3) addition of PC-siloxane without mineral filler does not change the flame retardance, although the impact strength improves. (Comp Ex. 5 vs Comp Ex. 1)
- (4) addition of a different flame retardant does not produce the same increase in flame retardance. (Comp Ex. 6-8).
- (5) the high flex modulus that is achieved in the compositions of the invention is not achieved in compositions that use the methyl phenyl silicone flame retardant. (Ex. 1 vs Comp Ex 6, Ex. 3 vs Comp Ex. 8).

From this, it can be seen that the compositions of the invention provide a desirable combination of flex modulus, impact strength and flame retardance that is a consequence of the combination of recited materials, and which is not achieved using just some of the claimed components.

The Examiner rejected claims 1-73 under 35 USC § 102(b) as anticipated by any of six references. Applicants respectfully point out that anticipation requires that a single reference disclose each and every limitation of the claimed invention. Applicants have amended claims 1 and 42 to recite that the mineral filler is selected from the group consisting of clay, talc, wollastonite and combinations thereof, and canceled claims 30-37 and 64-71 which substantially included this limitation without the reference to combinations. The option of a combination is expressly supported on Page 14, lines 13-14. Claims 1 and 42 have also been amended to state that the amount of the mineral filler is from 1 to 20 weight %, and this limitation has been removed from claims 2 and 43 as well as other dependent claims in which it was included. Dependent claims 76-81 have been added which state that the mineral filler and/or the fire

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retardant consist of the stated materials and thus exclude other mineral filler or fire retardant additives.

Although the Examiner rejected all of the claims as anticipated, he did not specifically identify anywhere in the cited references that the limitation added to claims 1 and 42 and previously present in the canceled claims was to be found. As such, the examiner has not presented a prima facie case of anticipation with respect to these original claims, or with respect to the claims as amended, since "it is incumbent upon the examiner to identify wherein each and every facet of the claimed invention is disclosed in the applied reference." *Ex parte Levy*, 17 USPQ2d 1461, 1464 (BPAI 1990).

None of the references cited by the Examiner disclose an actual compositions within the scope of the present claims. Rather, they disclose components and optional components where if one makes the right choices, one could arrive at the composition of the invention. In the present case, Applicants submit that this in an inappropriate basis for an anticipation rejection since the claims reflect a special combination of ingredients which yield exceptional results in terms of the properties of the resulting material, and this particular combination of materials is not a necessary result of the teachings in any of the cited references. Indeed, in each reference, the materials combined here tend to be in the optional category or the reference includes some additional material that is not required to arrive at good results but that is not required in the presently claimed combination. Thus, the guidance of MPEP § 2131.02 which states that:

when the compound is not specifically named, but instead it is necessary to select portions of teachings within a reference and combine them, e.g., select various substituents from a list of alternatives given for placement at specific sites on a generic chemical formula to arrive at a specific composition, anticipation can only be found if the classes of substituents are sufficiently limited or well delineated. *Ex parte A*, 17 USPQ2d 1716 (Bd. Pat. App. & Inter. 1990).

is relevant. The rejections here are all of this type, where choices of particular options are necessary, but the reasons for the choices (based on the references) have not been shown by the Examiner.

Turning now to the specific references, US Patents Nos. 6,072,011 and 6,657,018 have the same disclosure. In the rejection, the Examiner is calling titanium dioxide a mineral filler although the reference does not do so. However, titanium dioxide does not meet the limitations of the claims as now amended, and therefore whether or not it is appropriately considered a "mineral filler" is irrelevant. Applicants note that the '011 patent also mentions clay and talc as optional fillers as columns 4-5. Applicants further note that there is no specific teaching of using clay or talc in any composition or the amount in which it would be used. Thus, there is no

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anticipation of claims 1 and 42 as amended, and hence no anticipation of any of the dependent claims either.

Mitsuta 2002/0193476 relates to a polycarbonate composition in which an arylphosphine is included in the compositions of the invention to provide a flame retarded composition. Example 4 of this reference shows such a composition in which the presence of the triphenylphosphine (TPP) and methyl phenyl silicone results in a V0 rating at 1.5 mm thickness. In contrast, Comp Ex. 6 shows a comparable composition without the TPP has poor flame performance at this thickness. Neither TPP nor methylphenyl silicone meets the flame retardant limitations of the present invention, yet these are the only examples in which a PC-siloxane is included. Furthermore, as shown in the attached declaration, when methylphenyl silicone is used as the flame retardant the flame performance is very poor (V2, not passing). Nothing in Mitsuta discloses any criticality that would lead to the selection of materials as recited in the present claims.

Venderbosch 2003/0181603 also does not disclose a specific composition that is within the scope of the present invention. Accordingly, to arrive at the anticipation rejection, the Examiner had to advocate choosing elements from various places in the specification, but nothing in the specification guides these choices. As such, this is not a proper anticipation rejection.

Marugan 2005/0085580 is prior art only under 35 USC § 102(e). Applicants advise the Examiner that the Marugan application and this application are commonly assigned to General Electric Company, and were subject to a common obligation of assignment at the time the invention was made. Accordingly, this reference may not be cited in an obviousness rejection. As to the anticipation rejection, Marugan discloses titanium dioxide as a component of all of the compositions of this application. Accordingly, claims 76-80 are clearly not anticipated by this reference. Furthermore, while Marugan mentions clay, talc and wollastonite at ¶ 51, there is no teaching of the amount of these optional materials in the specification and no example in which the materials are used. As such, claims 1 and 42 are not anticipated because they recite 1 to 20 % of the mineral filler selected from these materials.

Venderbosch 2006/0014919 is not prior art to this application. The filing date of this application is February 3, 2004. The filing date of the cited application is February 20, 2004. Accordingly, the rejection to the extent it relies on this application should be withdrawn.

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For these reasons, this application is now considered to be in condition for allowance and such action is earnestly solicited.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Marina T. Larson", is written over a horizontal line.

Marina T. Larson, Ph.D
Attorney/Agent for Applicant(s)
Reg. No. 32038

(970) 262-1800

Enclosure